Fostering Interdisciplinary Research on Education (FIRE)

Funding Agency: National Science Foundation
Funding #: 11-526
Due: 4/29/2011
Link: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503479

FIRE is a strand of the Research and Evaluation on Education in Science and Engineering (REESE) program (NSF 10-586) and it is anticipated that FIRE will eventually be incorporated into the REESE solicitation. The FIRE program seeks to facilitate the process by which scholars can cross disciplinary boundaries to acquire the skills and knowledge that would improve their abilities to conduct rigorous research on STEM learning and education. The primary goal of the strand is to facilitate the development of innovative theoretical, methodological, and analytic approaches to understanding complex STEM education issues of national importance and, by so doing, make progress toward solving them. A secondary goal of the strand is to broaden and deepen the pool of investigators engaged in STEM educational research. In order to address this goal, investigators must pair with a mentoring scholar in a to-be-learned field of interest. Proposals therefore have both a research and a professional development component. Investigators may receive a FIRE award at any point in their post-graduate careers.

Innovative Technology Experiences for Students and Teachers (ITEST)

Funding Agency: National Science Foundation
Funding #: 11-525
Due: 3/11/2011
Link: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5467

The ITEST program responds to current concerns and projections about the growing demand for science, technology, engineering, and mathematics (STEM) professionals in the U.S. and seeks solutions to help ensure the breadth and depth of the STEM workforce. ITEST supports the development, implementation, testing, and scale-up of implementation models. It also supports research studies to address questions that point to solutions for building a strong, competent STEM workforce. A variety of possible approaches to supporting the future STEM workforce and to building students’ capacity to participate in that important workforce may be implemented and studied. ITEST projects must include students and may include teachers. The target audience is kindergarten through high school age, and projects may focus on any content area related to the STEM workforce. Projects that explore the impact of robotics competitions are of special interest; specifically, ITEST is placing emphasis on proposals to design and implement robotics competitions, and to study their effectiveness as a means of engaging students in learning STEM content and 21st Century skills. The ITEST program is interested in addressing such questions as: What does it take to effectively interest and prepare students to participate in the STEM workforce of the future? How do students acquire the knowledge, skills, and dispositions they need in order to participate productively in the changing STEM workforce? How can we assess and predict students’ inclination to participate in the STEM fields, and how can we measure the impact of various models that encourage that participation? Types of ITEST Projects Three types of projects are invited: Scale-up projects implement and test models that prepare students for the STEM and
information and communications technology (ICT) workforce of the future in a large-scale setting, such as at state or national level. A scale-up project must be based on evidence of demonstrated success from an existing strategy targeting students or teachers. Strategies projects are targeted at students and/or teachers. These projects design, implement, and evaluate models for classroom, after-school, summer, virtual, and/or year-round learning experiences. The strategies are intended to encourage students’ readiness for, and their interest and participation in, the STEM and ICT-intensive workforce of the future. Strategies proposals must describe the anticipated contributions to the research knowledge base about STEM career preparation in addition to immediate impacts on participants. Research projects enrich the understanding of issues related to growing the STEM workforce. Projects may conduct efficacy and effectiveness studies of intervention models; conduct longitudinal studies of efforts to engage students in the STEM areas; develop instruments to assess engagement, persistence, and other relevant constructs of student motivation; or conduct studies to identify predictors of student inclination to pursue STEM career trajectories. The program is especially interested in projects that target students from groups that are underserved and underrepresented in STEM and ICT-intensive careers, including those residing in rural and economically disadvantaged communities.

Nanotechnology Undergraduate Education (NUE) in Engineering

Funding Agency: National Science Foundation
Funding #: 11-524
Due: 4/20/2011
Link: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13656

This solicitation aims at introducing nanoscale science, engineering, and technology through a variety of interdisciplinary approaches into undergraduate engineering education. The focus of this year’s competition is on nanoscale engineering education with relevance to devices and systems and/or on the societal, ethical, economic and/or environmental issues relevant to nanotechnology.

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